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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/977,384	10/16/2001	Kim Houng Joong	381NP/50470	3058

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EXAMINER	
ELKASSABGI, HEBA	

ART UNIT	PAPER NUMBER
2834	

DATE MAILED: 03/25/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/977,384	KIM HOUNG JOONG	
	Examiner	Art Unit	
	Heba Elkassabgi	2834	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *26 October 2004*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *68-86* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *68-70,73-75,78 and 79* is/are rejected.

7)☒ Claim(s) *71,72,76,77 and 80-86* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *16 October 2001* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Priority

Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Drawings

The drawing objection is withdrawn in light of applicant's amendment.

Specification

The objection to the specification is withdrawn in light of applicant's amendment.

Claim Objections

It is advised that applicant review the claim language of claims 68- 86 for appropriate grammar and any informality.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 68-70,73-75,78-79 are rejected under 35 U.S.C. 102(b) as being anticipated by Masuzawa et al. (US Patent 5821710).

Masuzawa et al. discloses in the abstract and in the summary of the invention a machine having a stator (1) having a winding (12), and a rotor (2) having first and second field magnets (3) of different, magnetic poles and are arranged sequentially and alternately on a rotating shaft (21) in a rotation direction. The first and second field magnets (3) are opposed to the magnetic poles of the stator (1), in which the first and second field magnets (3) rotate in the direction of the rotating shaft (21) according to the magnetic action force of first and second field magnets and the direction of the torque generated in the rotor. In regards to claim 69, figures 1A or 2A illustrate that the centers of the magnetic poles of the first and second field magnets (31,32) are maintained in an alignment state when the rotor rotates in one direction at a low speed. Additionally, the second field magnet is displaced with respect to the first field magnet with the first field magnet being maintained when the rotor rotates in one direction at a high speed and the centers of the magnetic poles of the first and second field magnets are shifted from the alignment state and the first field magnet is displaced with respect to the second field magnet with the second filed magnet being maintained when the rotor rotates in the other direction at a high speed and the centers of the magnetic poles of the first and second field magnets are shifted from the alignment state. In regards to claim 70, figure 3A (see column 8 lines 21-clomn 9, lines 11) illustrates a mechanism (342) that moves the first and second field magnets (31,32) in rotation direction of the rotating shaft (21) according the magnetic action force of the field magnets and the direction of the torque

generated in the rotor and a mechanism (322) that controls the movement of the field magnets. In regards to claim 78, an electric current angle has a displacement of the first field magnet

Claim 73 is rejected under 35 U.S.C. 102(b) as being anticipated by Nishikawa et al. (US Patent 6252323).

Nishikawa et al. discloses in figure 1 and 9 a stator (2) having a winding (5a-5i), and a rotor (24b) having first and second field magnets (27,29) of different magnetic poles and are arranged sequentially and alternately on a rotating shaft (11) in a rotation direction. The first and second field magnets (13,14) are opposed to the magnetic poles of the stator (2). The first and second field magnets (27,29) are arranged at both ends of the third field magnet (28) fixed on the shaft (11) and displace in a rotation direction of the rotating shaft (11) according to the magnetic action force of the first and second field magnets (27,29) and the direction of the torque generated in the rotor (24).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claim 74 is rejected under 35 U.S.C. 103(a) as being unpatentable over Masuzawa et al. (US Patent 5821710), as applied to claim 68 above, and further in view of Nishikawa et al. (US Patent 6252323)

Masuzawa et al. discloses the claimed invention except for a third magnet.

Nishikawa et al. discloses in figure 9 the centers of the magnetic poles of the first (27a-27h) to third (28a-28h) field magnets are maintained in an alignment state when the rotor (24b) rotates in one direction; wherein the second (29a-29h) field magnet is displaced with respect to the third (28a-28h) field magnet with the centers of the magnetic poles of the first (27a-27h) and third (28a-28h) field magnets maintained in an alignment state when the rotor (24b) rotates in one direction at a high speed and the centers of the magnetic poles of the second (29a-29h) and third (28a-28h) field magnets are shifted from the alignment state where the centers of the magnetic poles of the first (27a-27h) to third (28a-28h) magnets are aligned. Additionally, the first (27a-27h) field magnet is displaced with respect to the third (28a-28h) field magnet with the centers of the magnetic poles of the second (29a-29h) and third (28a-28h) field magnets with the centers of the magnetic poles of the second (29a-29h) and third (28a-28h) field magnets maintained in an alignment state when the rotor (24b) rotates in the other direction at a high speed, and the centers of the magnetic poles of the first (27a-27h) and third (28a-28h) field magnets are shifted from the alignment state where the centers of the magnetic poles of the first (27a-27h) to the third (28a-28h) magnets are aligned in order to control torque.

Since Nishikawa et al. and Masuzawa et al. are from the same filed of endeavor; the purpose disclosed by one inventor would have been recognized in the pertinent art of the other.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to have a third magnet in order to control the torque as taught by Nishikawa et al.

Claims 75 and 79 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nishikawa et al. (US Patent 6252323) as applied to claim 73 above, and further in view of Masuzawa et al. (US Patent 5821710).

Nishikawa et al. disclsoes the claimed invention except for a mechanism the moves the field magnets.

Masuzawa et al. discloses in figure 3A (see column 8 lines 21-clomn 9, lines 11) illustrates a mechanism (342) that moves the first and second filed magnets (31,32) in rotation direction of the rotating shaft (21) according the magnetic action force of the field magnets and the direction of the torque generated in the rotor and a mechanism (322) that controls the movement of the filed magnets with ease and low cost using a simple mechanism. In regards to claim 79, an electric current angle is amended according the displacement of the first field magnet.

Since Nishikawa et al. and Masuzawa et al. are from the same filed of endeavor; the purpose disclosed by one inventor would have been recognized in the pertinent art of the other.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to have a mechanism to control the field magnets as taught by Masuzawa et al. for the purpose discussed above.

Allowable Subject Matter

Claims 71 and 76 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Prior art does not disclose a movement mechanism is a screw mechanism having a nut mechanism installed in each of the first and second field magnets, and a bolt mechanism installed in the shaft.

Claim 72 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Prior art does not disclose a movement control mechanism having a first control mechanism installed on the shaft between the first and second field magnets, a second control mechanism installed on the opposed side of the second field magnet with respect to the first field magnet and a third control mechanism installed on the opposed side of the first field magnet with respect to the second field magnet and these control mechanisms can move along a shaft.

Claim 77 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Prior art does not disclose a movement control mechanism having one control mechanism installed on the opposed side of the second

filed magnet with respect to the first field magnet and another control mechanism installed on the opposed side of the first field magnet with respect the second field magnet and these control mechanisms can move along the shaft.

Claims 80-81 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Prior art does not disclose a support mechanism that guides the movement of the first and second magnets is installed between the first and second magnets and the shaft.

Claim 82-83 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Prior art does not disclose a first and second field magnets installed on the shaft through a sleeve that is insulated magnetically and electrically.

Response to Arguments

Applicant's arguments with respect to claims 68-86 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a). A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed

within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Heba Elkassabgi whose telephone number is 571-272-2023. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Darren Schuberg can be reached on 571-272-2044. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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Class 310- Electrical Generator/Motor structure

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